

**PROPOSED REGULATION OF THE
STATE BOARD OF EDUCATION**

LCB File No. R029-09

June 24, 2009

EXPLANATION – Matter in *italics* is new; matter in brackets ~~[omitted material]~~ is material to be omitted.

AUTHORITY: §1, NRS 385.080 and 385.110.

A REGULATION relating to education; revising provisions governing the standards for a course of study in automotive technology; and providing other matters properly relating thereto.

Section 1. NAC 389.597 is hereby amended to read as follows:

389.597 A course of study in automotive technology must be designed so that pupils meet the following performance standards by the completion of an advanced program of instruction:

1. For the area of safety, demonstrate safe work practices while performing operations in an automotive technology laboratory, as demonstrated by the pupil's ability to:

(a) Demonstrate adherence to the general rules of shop safety, including, without limitation, the:

- (1) Proper use of safety apparel;
- (2) Proper use and care of hand and power tools;
- (3) Proper use and care of heavy equipment; and
- (4) Safe handling, storage and disposal of chemicals and hazardous materials in

accordance with local, state and federal statutes and regulations.

(b) Demonstrate adherence to the ~~[specific]~~ rules and procedures ~~[of shop safety]~~ regarding fire safety . ~~[, including, without limitation, the:~~

~~—(1) Proper use of fire extinguishers; and~~

~~—(2) Safe handling, storage and disposal of chemicals and hazardous materials in accordance with local, state and federal statutes and regulations.]~~

2. *For the area of general laboratory procedures, understand the general rules and procedures of the automotive technology laboratory, as demonstrated by the pupil's ability to:*

(a) Properly use the tools and equipment commonly found in the automotive technology laboratory;

(b) Retrieve and apply the service information of a vehicle;

(c) Prepare a vehicle for automotive service;

(d) Perform basic automotive service; and

(e) Return a vehicle to a customer upon the completion of the automotive service.

3. For the area of engine repair, understand the requirements for automotive service, as demonstrated by the pupil's ability to perform ~~[-~~

~~—(a) General diagnosis of] *general service and maintenance on* an engine . ~~[-and the removal and reinstallation of an engine;~~~~

~~—(b) Diagnosis and repair of a cylinder head and valve train;~~

~~—(c) Assembly, diagnosis and repair of an engine block; and~~

~~—(d) Diagnosis and repair of the lubrication and cooling system.~~

~~—3.]~~ 4. For the area of automatic transmissions and transaxles, understand the requirements for automotive service, as demonstrated by the pupil's ability to perform ~~[-~~

~~—(a) General diagnosis of] *general service on* a transmission and transaxle ~~[-~~~~

~~—(b) Maintenance and adjustment of a transmission and transaxle;~~

~~—(c) Repair of a transmission and transaxle while the transmission and transaxle are in the vehicle; and~~

~~—(d) Repair of a transmission and transaxle while the transmission and transaxle are off the vehicle.~~

~~—4.]~~ *by:*

(a) Performing visual inspections;

(b) Replacing fluids and filters;

(c) Retrieving and interpreting diagnostic codes;

(d) Identifying the components; and

(e) Identifying fluid types, fluid levels and concerns about the condition of the fluid.

5. For the area of manual drive train and axles, understand the requirements for automotive service, as demonstrated by the pupil's ability to perform ~~[diagnosis and repair of a:~~

~~—(a) Clutch on rear wheel drive vehicles;~~

~~—(b) Transmission]~~ *general service on the:*

(a) Clutch;

(b) Transmission and transaxle;

(c) Drive-shaft and half-shaft, universal and constant velocity joint; and

(d) Drive axle . ~~]; and~~

~~—(e) Four wheel and all wheel drive component.~~

~~—5.]~~ 6. For the area of suspension and steering, understand the requirements of automotive service, as demonstrated by the pupil's ability to perform ~~[-]~~ *general service on:*

(a) ~~[Diagnosis and repair of a]~~ A steering system;

(b) ~~[Diagnosis and repair of a]~~ A suspension system; and

(c) ~~Diagnosis, adjustment and repair for wheel alignment; and~~

~~—(d) Diagnosis and repair of wheels]~~ *The wheels* and tires.

~~[6.]~~ 7. For the area of brakes, understand the requirements of automotive service, as demonstrated by the pupil's ability to perform ~~[diagnosis and repair]~~ *general service* of:

(a) Hydraulic systems;

(b) Drum brakes;

(c) Disc brakes;

(d) Power assists units;

(e) Anti-lock brake systems; and

(f) ~~[Other items relating to the proper service of brakes, including, without limitation, wheel bearings, parking]~~ *Parking* brakes . ~~[and electrical systems.]~~

~~—7.]~~ 8. For the area of electrical and electronic systems, understand the requirements of automotive service, as demonstrated by the pupil's ability to perform:

(a) General ~~[diagnosis]~~ *service* of the electrical system;

(b) ~~[Diagnosis and repair]~~ *General service and testing* of a battery;

(c) ~~[Diagnosis and repair]~~ *General service* of a starting system; *and*

(d) ~~[Diagnosis and repair]~~ *General service* of a charging system . ~~;~~

~~—(e) Diagnosis and repair of a lighting system; and~~

~~—(f) Diagnosis and repair of a horn and windshield wiper and washer.~~

~~—8.]~~ 9. For the area of heating and air conditioning, understand the requirements for automotive service, as demonstrated by the pupil's ability to ~~[perform:~~

~~—(a) Diagnosis and repair]~~ *demonstrate knowledge* of ~~[an]~~ *heating and* air conditioning ~~[system;]~~ *systems by:*

(a) *Conducting visual inspections;*

(b) ~~[Diagnosis and repair of a refrigeration system component;]~~ *Identifying the location and types of refrigerants; and*

(c) ~~[Diagnosis and repair of a heating, ventilation and engine cooling system;~~

~~—(d) Diagnosis and repair of operating systems and related controls; and~~

~~—(e) Recovery, recycling and handling of refrigerants.~~

~~—9.]~~ *Conducting diagnostic tests using manifold gauges.*

10. For the area of engine performance, understand the requirements of automotive service, as demonstrated by the pupil's ability to perform:

(a) General diagnosis *and repair* of an engine;

(b) ~~[Diagnosis and repair of computerized engine controls;~~

~~—(c)]~~ Diagnosis and repair of an ignition system;

~~[(d)]~~ *and*

(c) Diagnosis and repair of fuel ~~[, air induction and exhaust]~~ systems . ~~[;~~

~~—(e) Diagnosis and repair of emissions control systems; and~~

~~—(f) Other services related to an engine.~~

~~—10.]~~ 11. *For the area of alternative fuels and vehicles that use alternative fuels,*

demonstrate general knowledge of:

(a) *Alternative fuels; and*

(b) *Vehicles that use alternative fuels.*

12. For the area of skills necessary to ~~[obtain employment, demonstrate:]~~ *succeed in the workplace, understand the requirements for workplace readiness, as demonstrated by the pupil's ability to:*

- (a) ~~{Skills necessary for solving}~~ *Solve* problems;
- (b) ~~{Skills of critical thinking;}~~ *Evaluate information critically*;
- (c) ~~{The ability to speak,}~~ *Speak*, write and listen effectively;
- (d) ~~{The ability to select,}~~ *Select*, apply and maintain the appropriate technology necessary

for a career;

- (e) ~~{Skills}~~ *Demonstrate the skills* of leadership and teamwork;
- (f) ~~{An awareness of the}~~ *Demonstrate* ethical behavior appropriate for the workplace;
- (g) ~~{An ability to effectively}~~ *Effectively* manage resources in the workplace;
- (h) ~~{Skills}~~ *Demonstrate the skills* necessary for the planning and development of a career;

and

- (i) ~~{Skills}~~ *Demonstrate knowledge of the skills* necessary for retaining a job and continuation of learning throughout a career.